

Giffen Mine

Sections 14, 22, and 23, T18N, R4E
Stockett vicinity
Cascade County
Montana

HAER No. MT-30

HAER
MONT,
7-STOCK.V,
1-

PHOTOGRAPH

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
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HISTORIC AMERICAN ENGINEERING RECORD

HAER
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7-STOCK, V,
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Giffen Mine

HAER No. MT-30

Location: Approximately three miles southwest of Stockett, Montana. The site is near the head of Number Five Coulee which was once the production center of the Great Falls coal field in Cascade County. The mine entrance was near the center of Section 14, T18N, R4E.

UTM: 12.5239750.486000
Quad: Stockett, MT - 1965

Date of Construction: 1930-1947

Present Owner: Ralph and Eleanor Singles
South of Stockett, Montana

Present Use: Abandoned

Significance: The Giffen Mine was one of the region's largest and most productive coal mines. It was also one of the last of the large commercial mines to close. During the 17 years it was in production, it was an important source of fuel for the Great Northern Railroad.

Historian: Paul Anderson

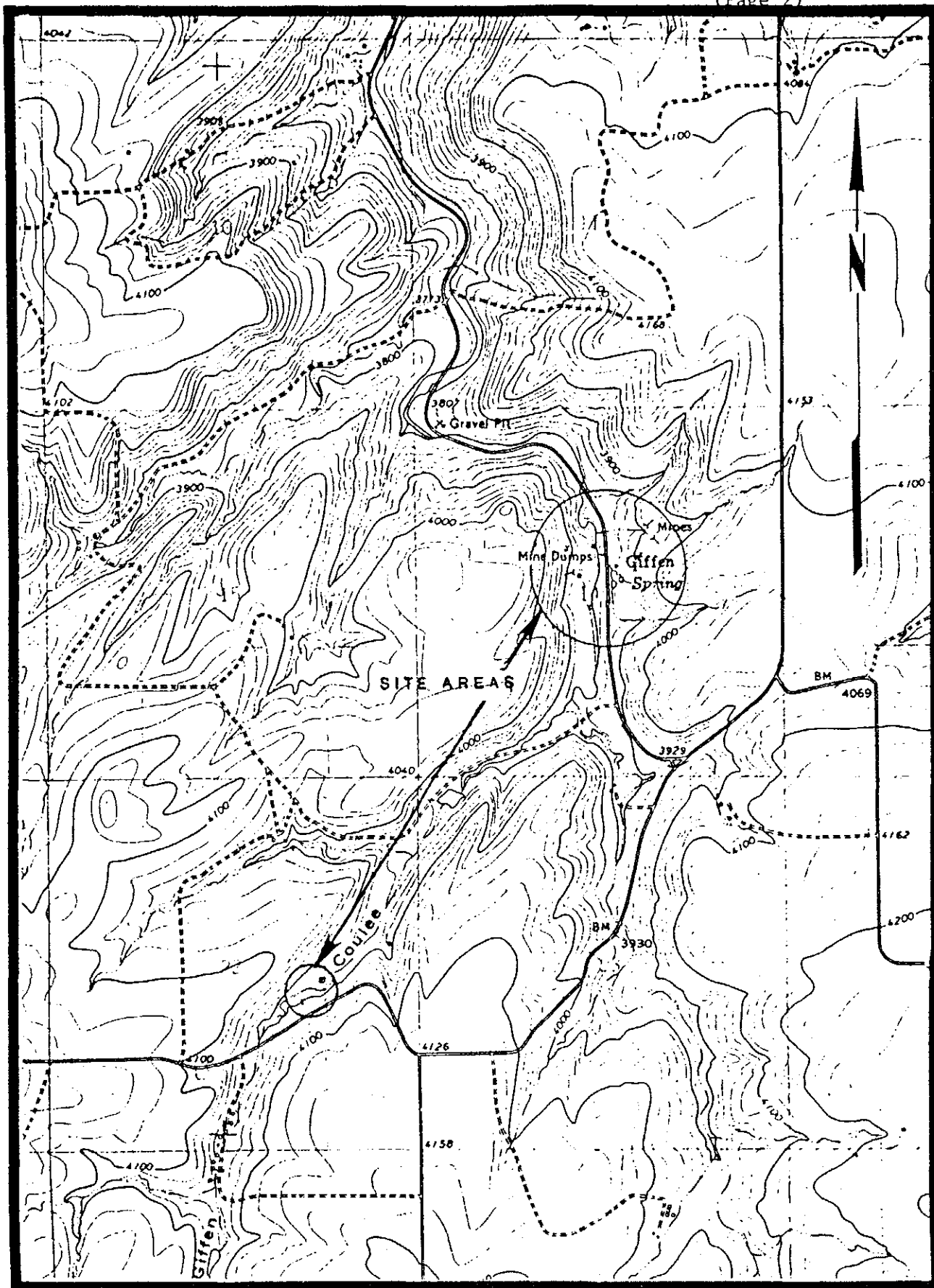


Figure 1. Map showing the location of the Giffen Mine.

I. GIFFEN MINE

A. Background

The presence of coal in the region was probably first documented by the Lewis and Clark expedition, as they traveled up the Missouri River in 1805. The expedition's journals contain a number of references to the outcrops of coal seen along the river banks. Typical was the entry made by Captain Meriwether Lewis on April 22, when he wrote:

Coal or carbonated wood pumice stone lava and other mineral appearances still continue. The coal appeared to be of better quality; I exposed a specimen of it to the fire and found it burnt [sic] tolerably well, it afforded but little flame or smoke, but produced a hot and lasting fire.¹

Seventy-two years would elapse before this coal was first developed. John K. Castner from Pennsylvania was one of the first to recognize the potential of the exposed coal seams along Belt Creek. In 1877, he filed claims on the bituminous coal-bearing lands in the area. During the next few years, Castner developed and operated a small "wagon" mine. He hauled the coal in mule-drawn wagons to Fort Benton, where it was sold for use both by the steamboats and by local residents. Coal was also mined at nearby Sand Coulee during this period and hauled to Fort Benton. By 1885, the combined production from the Sand Coulee and Belt mines was 1,900 tons, with 1,200 tons coming from Belt. The coal trade was apparently profitable, since the Fort Benton River Press in September 1887 reported that large piles of coal from Belt and Sand Coulee were on the levees for use by the steamboats.²

Major commercial development of the Belt-Sand Coulee coal fields coincided with the coming of the railroad. In 1887, Jim Hill's St. Paul, Minneapolis, and Manitoba Railroad (soon to be called The Great Northern Railway) laid tracks from Minot, North Dakota, to the new town of Great Falls in one season. By 1888, a branch line had been opened to Sand Coulee and, in 1891, the railroad passed through Belt on its way to the silver mines at Neihart. Coal production expanded to fill the increasing consumption by the railroads and the growing community of Great Falls. Coal demand increased even further when the Anaconda Company's copper smelter was opened in Great Falls in 1892.

When Castner first opened his Belt mine, he built several experimental coke ovens. Later, one hundred beehive coke ovens,

each with a capacity of three tons, were in operation to supply the Great Falls smelter. Unfortunately, the benches of coking coal could not be economically separated from the non-coking coal, and the ovens were closed down. During the 1950s, these ovens were dismantled to salvage the bricks.³

The major economic force in the Belt-Sand Coulee area was the Anaconda Copper Mining Company, which determined the demand for coal and also owned and operated several of the largest mines. In 1891, the company acquired the Castner Coal and Coke Company in Belt and operated it until 1912, when the company abruptly closed the mine down. The following year, the mine was leased by G. W. Merkle who ran the mine until 1925, when the seams began to thin and the operation became unprofitable. At Sand Coulee, the Anaconda Company acquired the Lochray Coal Company in 1914 and ran it for the next ten years.⁴

Another important mine in the area was the Nelson Mine at Sand Coulee, which furnished a large share of the coal used by The Great Northern Railroad. The railroad also operated its own mine at Stockett in the 1890s, under a subsidiary, the Cottonwood Coal Company. This same company later developed a mine at Giffen, a few miles south of Stockett, during the early 1930s. The mine supplied the railroad until 1946, when The Great Northern Railroad took the last of its steam locomotives out of service.⁵

Almost all of the area's mines were drift mines, so named because the coal could be reached by horizontal "drifts" driven into the coal from the side of a hill. The room-and-pillar method of mining the coal was generally used. While this method was not the most efficient for coal recovery, it did save on labor costs.⁶

The coal boom in the Belt and Sand Coulee area came to an end during the 1920s. Demand for coal was declining, and the seams were running shallow with a greater percentage of rock, making it increasingly expensive to mine. The Anaconda refinery ceased to use coal or coke for its furnaces; domestic users began to switch to natural gas and fuel oil, and The Great Northern Railroad began to use oil-burning steam locomotives and eventually converted to diesel engines.⁷

By the 1930s, all major mines had closed except for the Cottonwood Coal Company's mine at Giffen. A few small wagon mines supplied coal for local domestic use during the Depression, and there was a slight increase in demand during World War II. With the final closing of the Giffen Mine in 1947, coal production in the area virtually ceased.

The Great Falls field produced almost 36 million tons of coal during the period from 1885 to 1955, approximately 23 percent of the total state production. Nearly a third of the total tonnage was mined during the first two decades of this period. Over 15 million tons was produced during the life of the field by three of the largest mines: the Castner-Anaconda mine at Belt (7.5 million tons over 25 years), the Lockray-Anaconda mine at Belt (2.3 million tons over 10 years), and the Cottonwood mine near Stockett (5.4 million tons over 15 years). The Great Falls field also employed most of the State's 3,000 to 4,000 coal miners.⁸

Future energy needs may result in new coal development in the area, but this would most likely be through strip mining methods employing far fewer men than did the underground mines. The underground coal mining boom of the 1910s and 1920s was a unique chapter of the region's history that probably will not be seen again.

B. History of the Giffen Mine

The Giffen Mine was the last major industrial mine to be developed in the Sand Coulee-Stockett district (see pages 6 and 7). It also turned out to be the last of a succession of mines developed by The Great Northern Railroad as a prime source of fuel for its locomotives. Initially, the railroad relied on the A.C.M. Mine at Belt, which was owned and operated by the Anaconda Copper Mining Company until 1912. The mine was then taken over by the company's head bookkeeper and cashier, G. W. Merkle, who continued to supply the railroad. The railroad also utilized coal from the No. 1 Nelson Mine at Sand Coulee, which was operated by its subsidiary, the Cottonwood Coal Company. In 1903, the firm moved its operation to the No. 5 Mine at Stockett, which supplied the railroad for the next two decades. By the mid-1920s, the seams mined in the No. 5 Mine were running thin, and the company was finding it increasingly difficult to supply the railroad with sufficient stoker coal. In order to meet the railroad's needs, the company turned its attention to the undeveloped coal seam near the head of the Number 5 Coulee, about three miles south of the No. 5 Mine.⁹

In 1926, the Cottonwood Coal Company purchased the land for the new mine from William Justice and the Gerber estates. At this time, the company announced that they would close the No. 5 operation at Stockett on January 1, 1927, and plans were made to begin development of the new mine. This was not, however, the first mine on the property. The land had originally been homesteaded by Abner McGiffin who, along with Charles Culbertson, dug a small mine

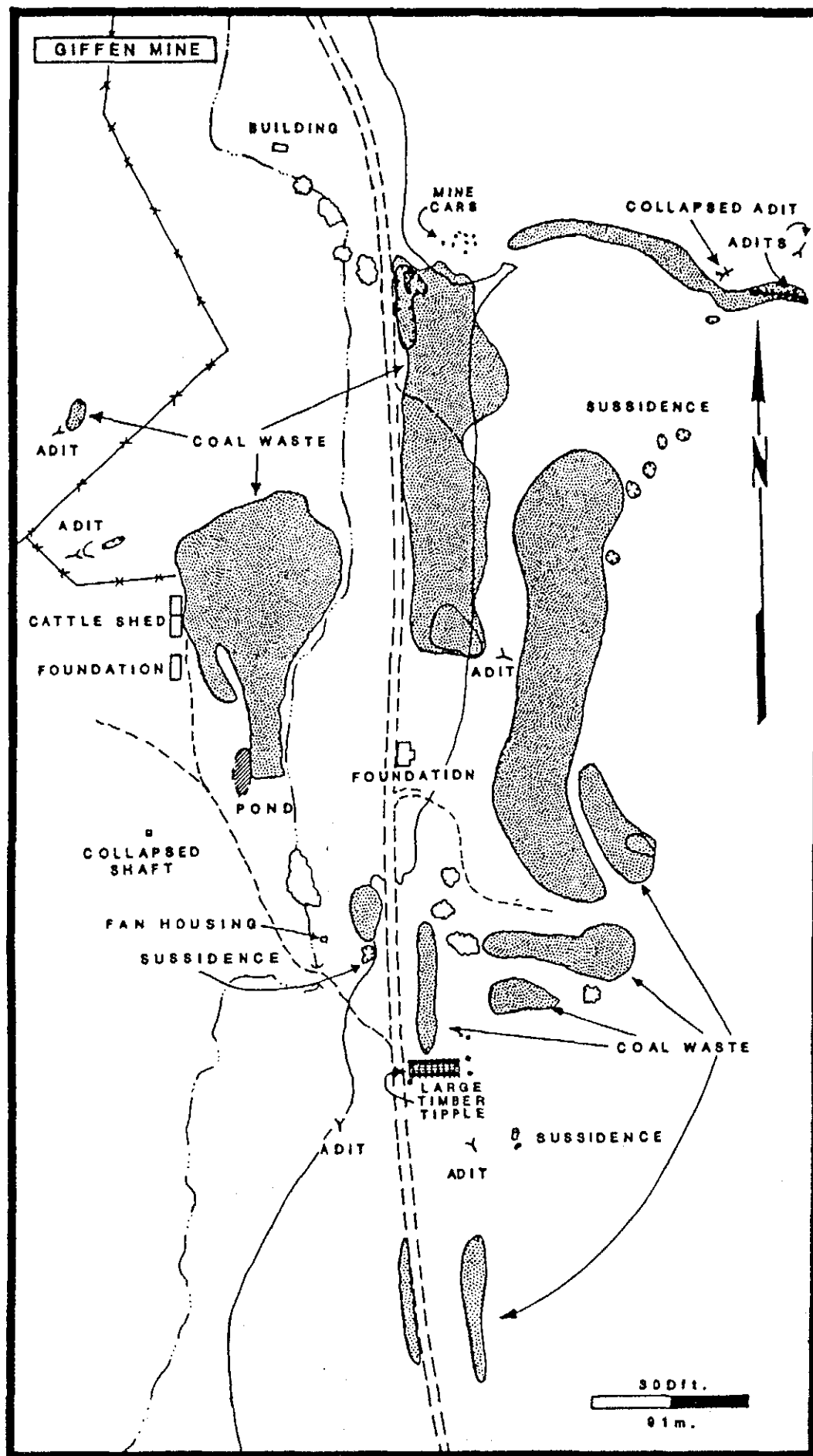


Figure 2. Map of the main area of the Giffen Mine.

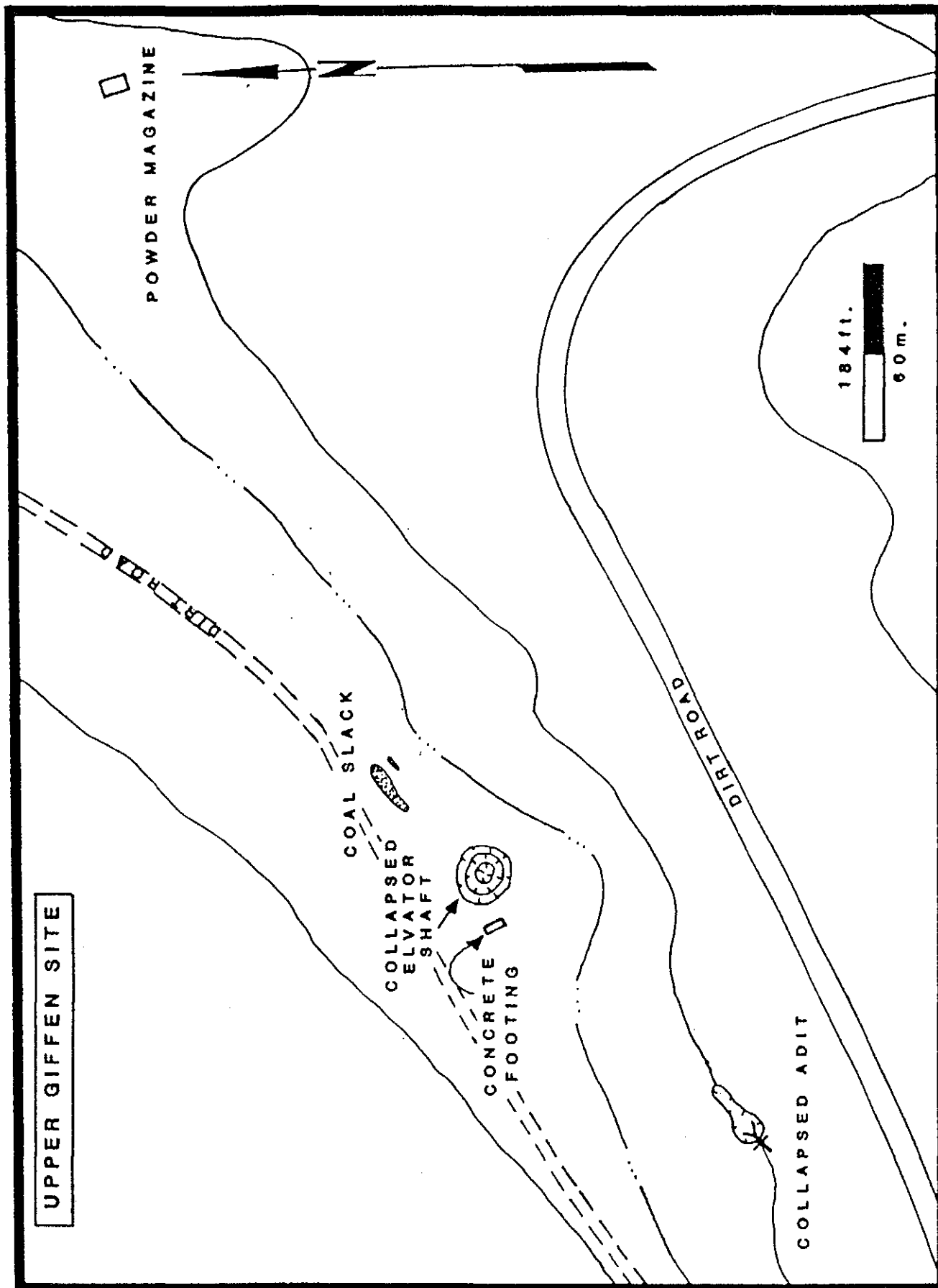


Figure 3. Map of the upper area of the Giffen Mine.

on the west side of the coulee near the future site of the Giffen Mine. Sometime later, the operation was taken over by Andy Halko, Jack Rothwell and Otto Speck, along with co-owners Ed Gerber, C. O. Jenks, Sam Stevenson, and a Mr. Heisey).¹⁰ A small tippie was built and coal was sold for local domestic use until the mine closed sometime during the 1920s.¹¹

The Cottonwood Coal Company opened the Giffen Mine (named after Abner McGiffin) on July 1, 1930, with Harry F. Tilton as company manager. Shortly after the mine opened, a branch line of the railroad was built to the mine. In order to meet the increasing demands from the railroad, a new shaft was sunk in October 1931, about one-half mile further up the coulee. Shortly after the mine went into full production, it was supplying about 1,500 tons of bituminous stoker coal a day to the railroad. Nearly all of the mine's production went to the railroad, although a small amount was used for local domestic fuel.¹²

Surface facilities at the Giffen Mine were relatively simple for a commercial mine of this size. After the coal was brought to the surface, it was first run over a picking table to remove impurities and then fed into a crusher. The stoker-sized coal was then loaded into gondola railroad cars from a large, wood-beam tippie. Sometime later, a boxcar loader was installed on the tippie, which made it possible to use boxcars to haul coal. Each railroad car was weighed on a track scale located just north of the tippie.

The railroad depot at Sand Coulee was moved to the mine site, where it served as both the company office and as a change house (or "dry" in miner's slang). Other facilities consisted of a shop building and a sand house, where sand was dried in a large hopper before being used in the mine to prevent mine cars from slipping on the tracks.¹³

The underground workings of the Giffen Mine eventually ran under most of the upper coulee area. The standard room and pillar method of mining the coal was used. When first opened, all mining was done by hand, using horse-drawn mine cars. Although the mine workings were comparatively shallow, ranging from about 75 to 100 feet under the surface, the mine initially had problems with poor air circulation. The Giffen had no difficulties with gas, but it was one of the few mines in the area with water problems. It had to be continuously pumped (at a reported cost of \$150 per day), in order to keep the mine dry. The major improvement in mining techniques during the life of the mine came with the introduction of Joy loaders, several years after the mine opened. The Joy loader was a self-propelled loader with two articulated arms which

gathered in the loose coal to a conveyor, where it was carried to the mine car. According to the underground foreman, William Tweedie, the Joy loader crew of five could load up to 100 tons of coal per day, which would have otherwise taken 40 men to do by hand. The mine ran two shifts a day and production average about 12 tons a day per man, which made the Giffen Mine one of the most productive in the region.¹⁴

However, a problem resulted from use of the Joy loader. The machine needed a larger five-ton car, which was considerably wider than the two-ton cars originally used. Since many of the early mine workings were designed for the smaller cars, the use of the larger five-ton cars resulted in many injuries, when miners were caught between the cars and mine walls. As in any other large coal mine, there was also frequent injuries from roof falls and all the usual hazards associated with coal mining. There were no underground fatalities, but a young man named Jack [or Ed] Conway was killed in 1941, when he fell into the crusher. The lack of gas in the workings, and the fact that the Giffen Mine had rather damp air, made the mine relatively safe from fire or explosion. One incident, which nearly became a major disaster, occurred when a flash flood in the coulee flowed into the mine workings so quickly that the miners had to be evacuated through an escape shaft located near Harry Tilton's house. All the miners managed to get out and no injuries were reported.¹⁵

The Cottonwood Coal Company encouraged the development of the town of Giffen at the mine site, but it never quite evolved into a viable community, as was the case with the nearby mining towns of Sand Coulee, Centerville and Stockett. The railroad moved the depot at Stockett to Giffen and, in 1934, a grain elevator was moved to Giffen from Sand Coulee. A small school was established with Ruth Gass as its teacher, but it remained open for only two years. In 1934, Robert Klasner moved a section of the company store from Stockett and converted it into a grocery store and bulk gas and oil plant. The next year, a post office was established in the store. The enterprise was to be shortlived, due to a lack of business, and both the store and post office closed shortly after they were opened. About 15 small houses for miners were built around the mine, while in 1934 four more substantial houses were built at the upper section of the coulee, about one-half mile south of the mine. These, and six other houses on the east side of the road, housed company officials. The area was derisively called "Silk Stocking Row" by the miners. One of the residents of "Silk Stocking Row" was Tony Boyle, who later became the head of the United Mine Workers, until he was convicted in 1971 of conspiring to have union rival, Jock Yablonski, murdered.¹⁶

In spite of the construction and encouragement by the company, a permanent town failed to take hold at Giffen. Part of the reason was due to the abysmal state of the roads, whenever it snowed or rained. They became virtually impassable, isolating Giffen for days at a time. Another problem was that, as the mine workings expanded under the coulee, the miner's houses had to be frequently moved when the ground became unstable. The principal reason the town of Giffen never became firmly established was because most of the miners had homes in nearby communities and chose to commute to Giffen rather than move. Some came in car pools from Great Falls, while John Dahl and Andrew Yatsko provided bus service for miners from Sand Coulee, Tracy, Centerville and Stockett. Mud and snow frequently forced the bus passengers to shovel through the drifts or push through the mud, in order to get the buses to Giffen. At its peak, the mine employed two shifts of nearly 400 men and boys (for one could work above ground at age 14 and below at age 16). The work force was a polyglot mixture of Yugoslavians, Finns, Greeks, Scotsmen, Italians, and other ethnic groups. The mine was said to have had little turnover of workers, since most of the men were long-time residents from nearby communities and had little incentive to move to other mining areas.¹⁷

Following World War II, The Great Northern Railroad began converting to diesel locomotives. By 1946, the conversion was completed and coal from the Giffen Mine was no longer needed. The mine was closed, even though it was reported to have been in excellent condition and as productive as it had ever been. On December 6, 1946, the railroad sold the mine with its 2,000 acres and 360 acres of mineral rights to Harry Tilton, Ben McNair and Robert Klasner. Tilton continued to serve as the mine manager for the new company, which was named the Giffen Coal Company. The mine operated on a reduced level for another year, selling coal to local area residents for domestic use. However, the loss of the railroad as a customer, plus high operating costs, forced the mine to close for good late in 1947.¹⁸

II. THE MINE

A. Description

Little remains of the Giffen Mine, and virtually nothing of the town of Giffen. At the mine site, the most prominent feature is the partial remains of the tippie (see HAER photographs MT-30-2, MT-30-3, and MT-30-4). This tippie is constructed of wood beams and measures 30 meters long, 9 meters wide and approximately 10 meters high. The remains represents perhaps two-thirds of the original structure. Five concrete blocks are found in a

north/south line, just east of the tippie. About 150 meters to the north of the tippie, on the old railroad bed, is a concrete foundation, measuring 6x12 meters with an underground tank. This is probably the remains of the scales used to weigh the loaded railroad cars. Across the road and west of the concrete foundation is a 3x3 meter fan housing, with 12 wooden fan blades (see HAER photograph MT-30-5). The housing appears to have been moved from some other location. On the west side of the site, a 6x23 meter wood frame building still stands (see HAER photograph MT-30-6). It was constructed in two sections, with the north section having a slightly lower roof. The south section has a cupola on the tin-covered gable roof. The structure is currently used as a cattle shed, but originally was probably a shop for mine equipment. Ten meters south of the building is a 6x13 meter foundation for an unknown structure. Much of the remaining site area is covered with coal waste dumps. In the immediate mine area, there are eight adit portals and an air shaft. About 250 meters north of the mine area is a small (3x6 meter) non-descript building of unknown use.

About one-half mile south of the main mine area, there is a small air/emergency escape shaft in the field at the head of the Number Five coulee. Near the head of Giffen Coulee (which runs southwest from the top of Number Five coulee), there are the remains of an auxiliary elevator shaft. The shaft head measures 25 meters in diameter. A small (2x4.5 meters) concrete footing is located a few meters southwest from the shaft, and a collapsed adit is some 70 meters from the shaft. Approximately 300 meters down the coulee from the elevator shaft is the mine's powder magazine. The 5x8 meter structure is built of bricks with a gable roof of boards covered with tin. The windowless structure has a single metal door on the northeast end.

The town of Giffen has totally disappeared. The miners' houses were either torn down or removed from the site. The mine office/change house was moved to Stockett. The depot was also moved from the site after the mine closed. The Giffen store stood empty on the site until 1953, when it was bought and moved to the Smith River area, where it was used as a community hall. The grain elevator and nearby stockyards also remained at the site until 1953. However, during the summer of that year, the railroad discontinued service, the tracks were removed, the stockyards dismantled, and the elevator was moved to another location. The only structure remaining of the houses built for the mine management personnel is the house of Harry Tilton. The structure remains in use as a ranch house for the Ralph Singles family, but has been altered to a point where it is reported to bear little resemblance to the original Tilton house.

III. FOOTNOTES

- ¹ Coues, Elliott, ed., History of the Expedition under the command of Lewis and Clark, vol. 1, p. 280.
- ² Cascade Historical Society, Stone Age to Space Age in 100 Years, pp. 56-64. Chadwick, Robert A., "Coal: Montana's Prosaic Treasure," Montana. The Magazine of Western History, Fall 1973, p. 25. Kennedy, Ethel Castner and Stober, Eva Lesell, Belt Valley History, pp. 28-36.
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- ⁴ Morgan, Thomas, "History of Coal Mining in Montana," Proceedings of the First Montana Coal Resources Symposium, p. 4.
- ⁵ Ibid., p. 4.
- ⁶ Kennedy, Ethel Castner and Stober, Eva Lesell, Belt Valley History, p. 33.
- ⁷ Chadwick, Robert A., "Coal: Montana's Prosaic Treasure," Montana. The Magazine of Western History, Fall 1973, p. 25.
- ⁸ Silverman, Arnold J. and Harris, William L., Stratigraphy and Economic Geology of the Great Falls-Lewistown Coal Field, Central Montana, pp. 1-2.
- ⁹ Finch, Thomas, "History of Montana Coal Mining," Proceedings - Montana Coal Forum, p. 22; Kennedy, Ethel Castner and Stober, Eva Lesell, Belt Valley History, pp. 29-30; Fisher, Cassius A., Geology of the Great Falls Coal Field, pp. 50-64.
- ¹⁰ Singles, Eleanor Klasner, Giffen, "Giffen," A Century in the Foothills, p. 45.
- ¹¹ Ibid., p. 45.
- ¹² Ibid., p. 45.
- ¹³ Ibid., pp. 46-47; William Tweedie, interview, 1981.
- ¹⁴ Klasner, Mildred, personal communication, 1986; William Tweedie, interview, 1981.

- 15 Singles, Eleanor Klasner, "Giffen," A Century in the Foothills, p. 48; William Tweedie, interview, 1981.
- 16 Singles, Eleanor Klasner, "Giffen," A Century in the Foothills, pp. 45-46; Mildred Klasner, personal communication, 1986.
- 17 Singles, Eleanor Klasner, "Giffen," A Century in the Foothills, p. 45; Mildred Klasner, personal communication, 1987; William Tweedie, interview, 1981.
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